

Appl. No. 10/807,208
Amdt. dated March 29, 2005
Reply to Office Action of December 29, 2004

PATENT

REMARKS/ARGUMENTS

Correspondence Address Correction

Applicant previously submitted a Revocation and Power of Attorney in correspondence with the PTO dated July 22, 2004 requesting that the correspondence address for the application be changed to the address associated with customer number 20350. The correspondence address and attorney have not been updated. Applicant requests the application be updated to indicate the correspondence address and practitioners associated with customer number 20350. Additionally, Applicant respectfully requests the Attorney Docket number be updated to 022263-000210.

Discussion of Pending Claims

Applicant, by this paper, amends claims 1, 5, 12, 18, and 21, cancel claims 19-20 without prejudice, and adds new claim 22. Therefore, claims 1-18 and 21-22 are pending in the application and are presented for further examination and allowance.

Discussion of Rejections Under 35 USC §103(a)

Claims 1-7 and 9-21 were rejected under 35 USC §103(a) as allegedly unpatentable over U.S. Patent No. 6,192,225 to Arpaia et al. (hereinafter Arpaia) with a view to U.S. Patent No. 6,597,899 to Souetinov et al. (hereinafter Souetinov). Claim 8 was rejected under 35 USC §103(a) as allegedly unpatentable over Arpaia and Souetinov with a view to U.S. Patent 6,545,516 to Ylamurto et al. (hereinafter Ylamurto).

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be reasonable expectation of success. Finally, the prior art reference, or references when combined, must teach or suggest all of the claim limitations.

Applicant contends that the cited references fail to teach or suggest all of the claim features. Claim 1 includes "mixing the RF signal with a plurality of oscillator signals with

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PATENT

different phases in an interleaving manner to produce a plurality of baseband signals, each or the plurality of baseband signals including interleaved in-phase and quadrature baseband signals.” An embodiment of this feature is shown and described in Applicant’s specification at Figure 3 and the associated text. Page 11 of the specification, as filed, provides an example of the outputs from mixers 341 and 340 of Figure 3.

The output of mixer 341, described by equations 13-16, include interleaved in-phase and quadrature baseband signals. Equation 14 represents an in-phase baseband signal and equation 15 represents a quadrature baseband signal. Similarly, equations 14 and 16 represent signals that are in quadrature.

Similarly, the output of mixer 340, described by equations 17-20, include interleaved in-phase and quadrature baseband signals. Equation 17 represents a quadrature baseband signal and equation 19 represents an in-phase baseband signal. Similarly, equations 18 and 20 represent signals that are in quadrature.

Neither Arpaia nor Souetinov, whether alone or in combination, describe baseband signals that include interleaved in-phase and quadrature baseband signals. Instead, Arpaia describes distinct and separate in-phase and quadrature baseband signal paths. Each of the mixers 3 and 3’ shown in Figures 2, 4, and 5 of Arpaia produces a baseband signal that is dedicated to an in-phase baseband signal or a quadrature signal. The LO phases applied to the mixers shown in Figures 2, 4, and 5 of Arpaia are incapable of producing interleaved in-phase and quadrature signals from each of the mixers. Souetinov does not even describe a direct conversion receiver and thus does not teach or suggest a configuration that would result in the features of claim 1. Therefore, Applicant respectfully requests reconsideration and allowance of claim 1, because Arpaia and Souetinov, either alone or in combination, fail to disclose each and every claimed feature.

Similarly, the Ylamurto reference describes dedicated I and Q baseband paths, shown and labeled as I and Q in Figures 4-5 of Ylamurto. Thus, the combination of Arpaia and Souetinov with Ylamurto also fails to teach or suggest all features of claim 1.

Claims 18 and 21 similarly include the feature of “a plurality of baseband signals, each or the plurality of baseband signals including interleaved in-phase and quadrature baseband

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signals." Therefore, Applicant respectfully requests reconsideration and allowance of claims 18 and 21 for the same reasons as provided above in relation to claim 1.

Claims 2-17 depend, either directly or indirectly, from claim 1 and are believed to be allowable at least for the reason that they depend from an allowable base claim. Therefore, Applicant respectfully requests reconsideration and allowance of claims 2-17.

Discussion of New Claim 22

New claim 22 is directed to a direct-conversion subsystem. Support for claim 22 can be found throughout the specification, as filed. In particular, support for claim 22 can be found in Figure 3 and the associated description. No new matter is added.


Claim 22 is believed to be allowable at least for the reason that the baseband signals at the output of the first mixer and the second mixer include interleaved in-phase and quadrature baseband signals based on the interleaving manner. Applicant respectfully requests prompt allowance of claim 22.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 858-350-6100.

Respectfully submitted,



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